

1. A wheel cover assembly comprising:

- a plurality of lug nuts each having a flange;
- a wheel cover adapted to cover the central portion of a wheel;
- a plurality of elongated tubular extensions extending axially from said wheel cover for attaching the wheel cover to the lug nuts of the wheel, each elongated tubular extension including a plurality of axial slots subdividing the extension into a plurality of cantilevered fingers adapted to engage the flange of a respective lug nut to retain said wheel cover to said wheel;
- means for retaining disposed within said wheel cover, said means for retaining being adapted to engage a portion of each of said plurality of elongated tubular extensions, said means for retaining being configured to radially support some of the flexible fingers and to bias said some of the flexible fingers into engagement with said lug nuts; and
- means for locating said retaining means, said means for locating extending axially from said wheel cover and disposed between said plurality of elongated tubular extensions;
- whereby said flexible fingers assisted by said retention means snap fit into engagement with said lug nuts such that said wheel cover assembly is removably attached to said wheel.

2. The wheel cover assembly of claim 1, wherein said plurality of cantilevered fingers each terminate with a bulbous end portion for engaging said lug nuts and for flexing said cantilevered fingers radially outward as said wheel cover moves axially towards said wheel, said plurality of cantilevered fingers further having an undercut groove adapted to accommodate said flange of said lug nuts thereby preventing disengaging of the fingers from the lug nut.

3. The wheel cover assembly of claim 2, wherein the thickness of each said cantilevered finger decreases as said cantilevered finger extends axially from said wheel cover.

4. The wheel cover assembly of claim 3, wherein said undercut groove of said plurality of cantilevered fingers has an upper shoulder adapted to engage said flange of said lug nuts thereby providing a positive axial location of said wheel cover to said wheel.

5. The wheel cover assembly of claim 1, wherein said means for retaining comprises wire band retainer composed of a single piece of metal that is formed and welded, said wire band being generally circular with a plurality of concave sections adapted to align with a portion of said plurality of elongated tubular extensions.

6. The wheel cover assembly of claim 5, wherein said means for locating includes a plurality of ribs having an engagement feature therein.

7. The wheel cover assembly of claim 6, wherein said wheel cover, said plurality of tubular extensions and said plurality of ribs are composed of injection molded plastic integrally formed in a single mold.

8. The wheel cover assembly of claim 1, wherein said wheel cover assembly covers said lug nuts and the central portion of said wheel.

9. In a vehicle having a wheel mounted thereon by a number of lug nuts, a wheel cover assembly comprising:

said lug nuts each having a flange;

a wheel cover having a decorative front face for covering said lug nuts and the central portion of said wheel, said wheel cover further having a plurality of elongated tubular extensions for attaching said wheel cover to said lug nuts, each elongated tubular extension having a plurality of slots extending axially from said wheel cover, said slots defining a plurality of cantilevered fingers adapted for engaging said flange of a respective lug nut to retain the wheel cover to the wheel;

a one-piece wire band retainer disposed within said wheel cover, said wire band retainer having a plurality of concave sections aligned with a portion of each of said elongated tubular extension, said wire band retainer being configured to radially support some of the flexible fingers and to bias said some of the flexible fingers into engagement with said lug nuts; and

means for locating said wire band retainer, said means for locating extending axially from said wheel cover and disposed between said plurality of elongated tubular extensions;

whereby said wheel cover is snap-fit attached to said wheel by axially forcing the cover toward the wheel as the cantilevered fingers flex radially outward as they pass over the flange of the respective lug nuts and said wheel cover is removable from said wheel without removal of the lug nuts.

10. The wheel cover assembly of claim 9, wherein said plurality of cantilevered fingers each terminate with a bulbous end portion for engaging said lug nuts and for flexing said cantilevered fingers radially outward as said wheel cover moves axially towards said wheel, said plurality of cantilevered fingers further having an undercut groove adapted to accommodate said flange of said lug nuts thereby preventing disengaging of the fingers from the lug nut.

11. The wheel cover assembly of claim 10, wherein the thickness of each said cantilevered finger decreases as said cantilevered finger extends axially from said wheel cover.

12. The wheel cover assembly of claim 11, wherein said undercut groove of said plurality of cantilevered fingers has an upper shoulder adapted to engage said flange of said lug nuts thereby providing a positive axial location of said wheel cover to said wheel, and prevent over-installation of said wheel cover.

13. The wheel cover assembly of claim 9, wherein said one-piece wire band retainer is composed of a single piece of metal that is formed and welded.

14. The wheel cover assembly of claim 13, wherein said means for locating includes a plurality of ribs having an engagement feature therein.

15. The wheel cover assembly of claim 14, wherein said wheel cover and said plurality of ribs are composed of injection molded plastic integrally formed in a single mold.

16. In a vehicle having a wheel mounted thereon by a number of lug nuts, a wheel cover retention system comprising:

said lug nuts each having a flange;

a wheel cover having a decorative front face covering said lug nuts and the central portion of said wheel, said wheel cover further having a plurality of elongated tubular extensions for attaching the wheel cover to the lug nuts of said wheel, each said elongated tubular extension having a plurality of slots extending axially from said wheel cover, said plurality of slots defining a plurality of cantilevered fingers adapted for engaging said flange of a respective lug nut to retain said wheel cover to said wheel, each said cantilevered finger having an bulbous portion for engaging said lug nut and for flexing said finger radially outward as said wheel cover moves axially towards said wheel, each said bulbous portion having an upper shoulder for engaging said flange of said lug nut thereby providing a positive axial location of said wheel cover to said wheel;

a plurality of integral ribs extending axially from said wheel cover, said plurality of ribs being disposed between said plurality of elongated tubular extensions; and

a one-piece wire band retainer located by said plurality of ribs, said one-piece wire band retainer having a plurality of concave sections aligned with a portion of each of said elongated tubular extension, said wire band retainer being configured to minimize outward radial movement of some of the flexible fingers due to heat creep;

whereby said wheel cover is snap-fit attached to said wheel by axially forcing the cover toward the wheel as the cantilevered fingers flex radially outward as they pass over the flange of the respective lug nuts and said wheel cover is removable from said wheel without removal of the lug nuts.

17. The wheel cover assembly of claim 16, wherein said wire band retainer is composed of a single piece of metal that is formed and welded.

18. The wheel cover assembly of claim 16, wherein said wheel cover and said plurality of integral ribs are composed of injection molded plastic integrally formed in a single mold.